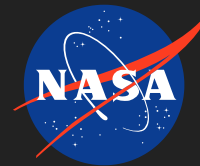


Novel instrumentation for in situ combustion measurements, Phase I



Completed Technology Project (2009 - 2009)

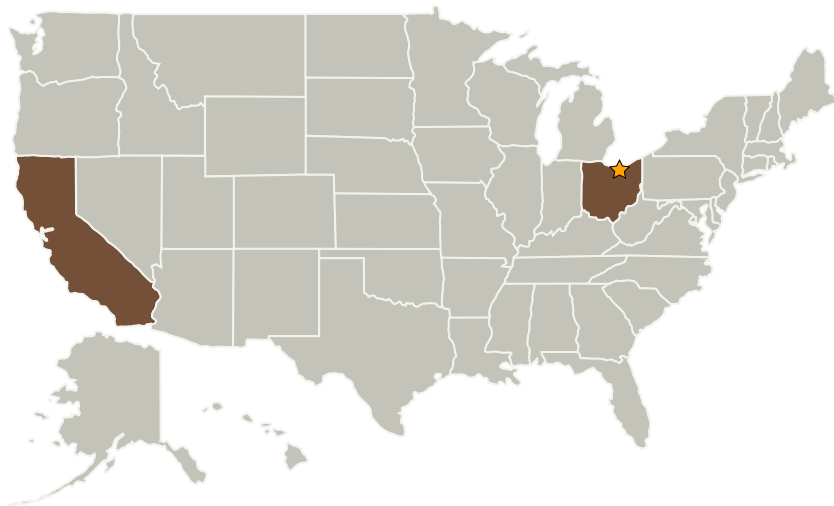
Project Introduction

The objective of the Phase I is to develop, demonstrate and test a novel instrument based on laser absorption diagnostics for fast, in situ measurements of important parameters (static gas temperature, bulk gas velocity, and gas concentration) in the high speed flows typical in NASA propulsion test facilities. In addition, the instrument will be easy to move (translate) during operation and thus allow measurements at different locations during a test run.

Anticipated Benefits

Potential NASA Commercial Applications: Non-NASA Commercial Applications include: Instrumentation for measurements, control and thus optimization of combustion engine flows (gas turbines, waste incinerators) based on measurements of gas concentrations, temperatures and velocities.

Primary U.S. Work Locations and Key Partners

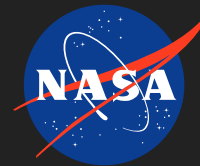


Novel instrumentation for in situ combustion measurements, Phase I

Table of Contents

Project Introduction	1
Anticipated Benefits	1
Primary U.S. Work Locations and Key Partners	1
Project Transitions	2
Organizational Responsibility	2
Project Management	2
Technology Maturity (TRL)	3
Technology Areas	3

Novel instrumentation for in situ combustion measurements, Phase I



Completed Technology Project (2009 - 2009)

Organizations Performing Work	Role	Type	Location
★ Glenn Research Center(GRC)	Lead Organization	NASA Center	Cleveland, Ohio
Los Gatos Research	Supporting Organization	Industry	Mountain View, California

Primary U.S. Work Locations	
California	Ohio

Project Transitions

**January 2009:** Project Start**July 2009:** Closed out**Closeout Summary:** Novel instrumentation for in situ combustion measurements, Phase I Project Image

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Glenn Research Center (GRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Project Manager:

Robert Balla

Principal Investigator:

Douglas Baer

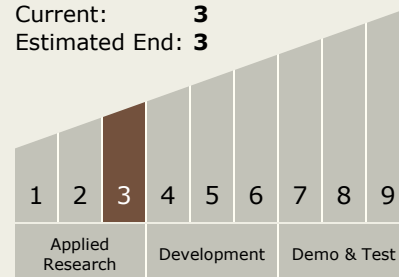
Novel instrumentation for in situ combustion measurements, Phase I

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Technology Maturity (TRL)

Start: **3**
Current: **3**
Estimated End: **3**



Technology Areas

Primary:

- TX15 Flight Vehicle Systems
 - └ TX15.1 Aerosciences
 - └ TX15.1.5 Propulsion Flowpath and Interactions